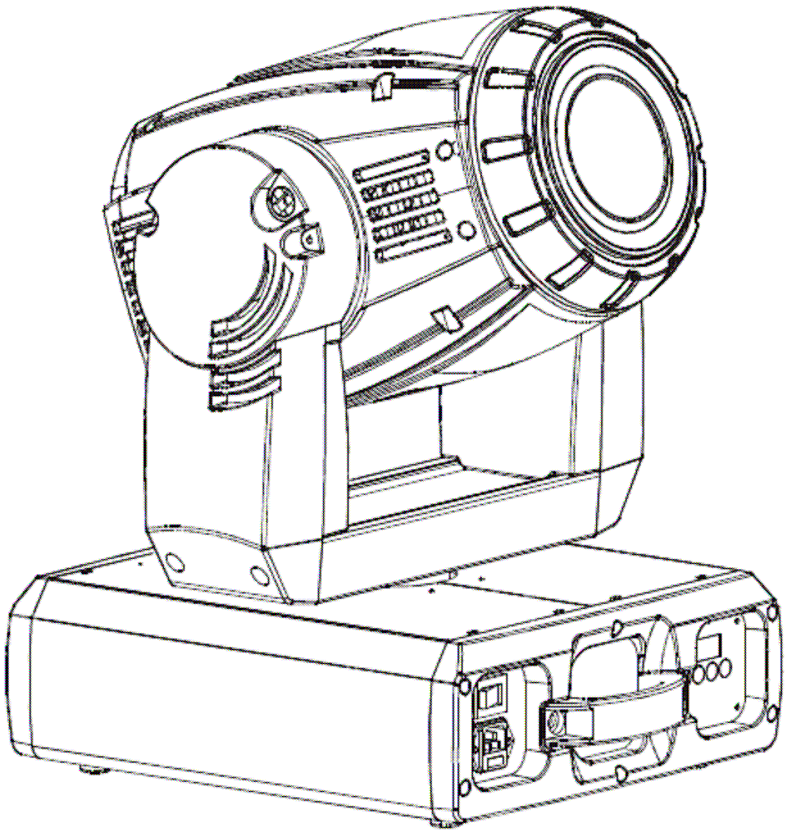
User Manual

MOVING HEAD

MODEL: *600SZ*



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IMPORTANT TERMS:

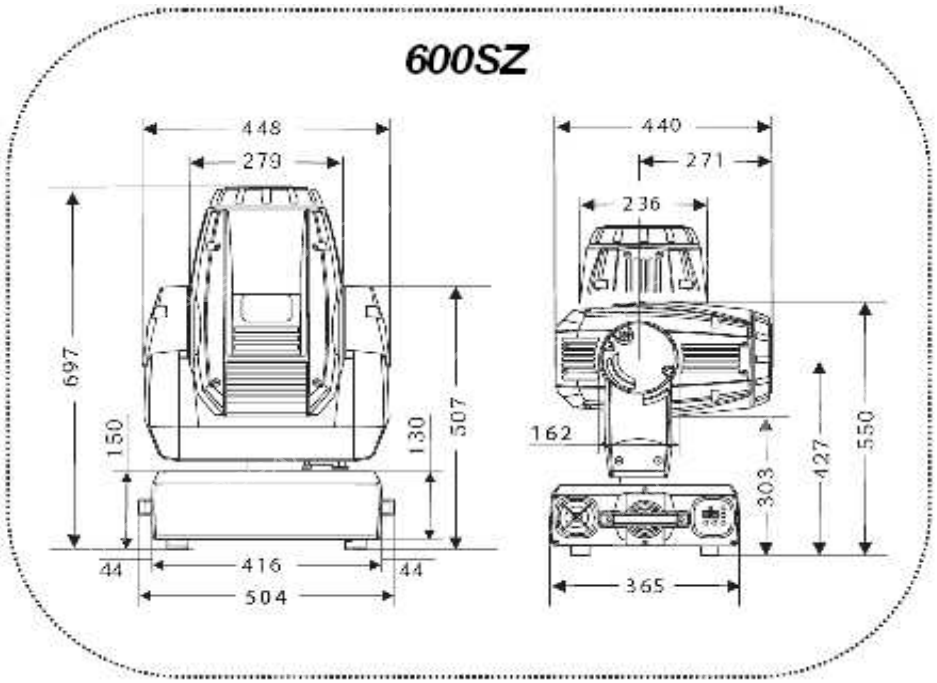
This manual covers important information about installation and operation of this moving head. Please read this manual carefully before installing and operating this Moving Head. Follow the safety precautions listed below:

A. Read this manual carefully and keep manual near moving head.

B. Follow the safety regulations mentioned in this manual when operating or installing this fixture.

C. Warranty is void if the product is misused, damaged or modified in any way, or for unauthorized repairs or parts

D. For maintenance or lamp replacement, disconnect the fixture from main power before opening the moving head.


600SZ
448
279
697
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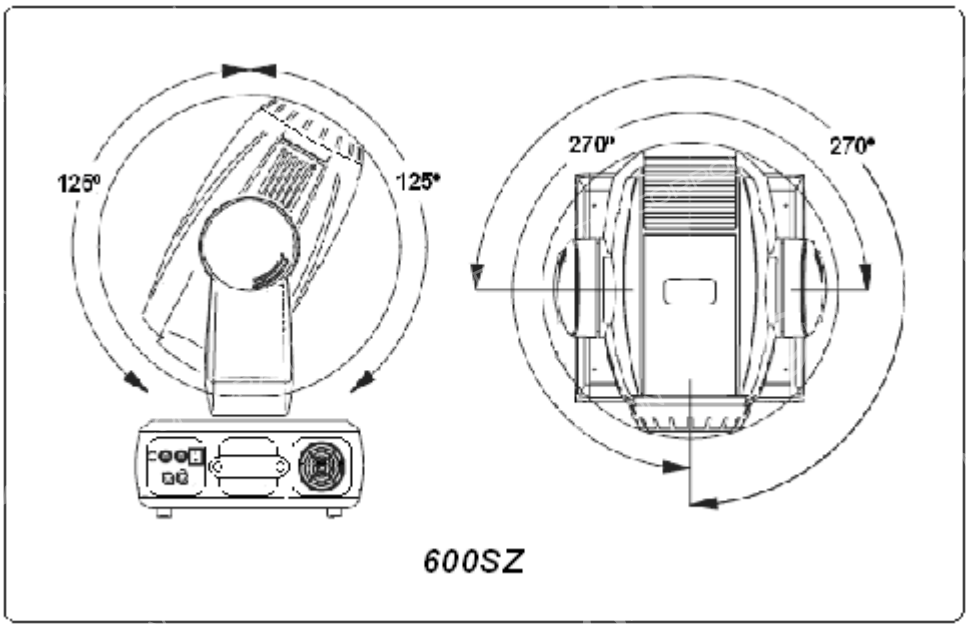
416
44
504
440
271
236
162
303
427
550
365


125°
125°
270°
270°
600SZ

G·LITES 600SZ

INTRODUCTION

Thank you for choosing **G-Lites** products. Our products are created to satisfy your highest expectations and complete quality control.

This manual covers important information about installation & operation of this moving head. Please read this user manual carefully before installing or operating this product. Please carefully follow the safety instructions listed below and keep this manual in a safe place for future reference.

Note: As part of our ongoing commitment to continuous products update, the company will keep the right to improve this product; the information in this menu may be changed without notice.

Transportation

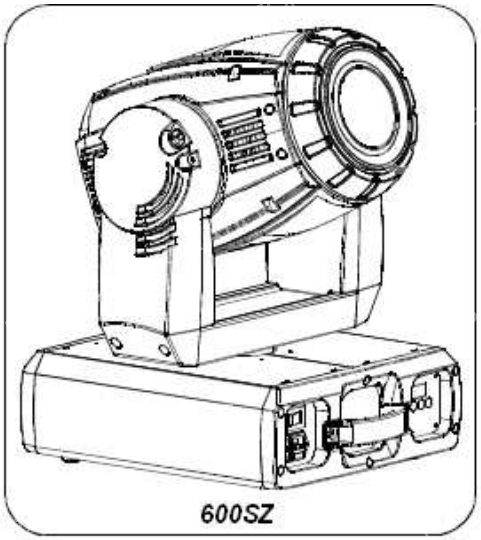
Please be sure to lock the head before transportation.

Cardboard box:
The cardboard box is not designed for repeated use and for transportation of the fixture; we recommend the use of our **fixture** cases.

Single flight case:
The **fixture** case is made of plywood and is designed for safe transportation and protection of the moving head. They include caster wheels with lock and handles.

1. Packing
Unpack the moving head and verify that it arrived complete and without any damage. The shipping carton contains the following accessories:

Attachment	
DMX cable	2pcs
User manual	1pc
Mounting Bracket	2pcs
Safety cord	2pcs
Hexagonal-screw	4pcs



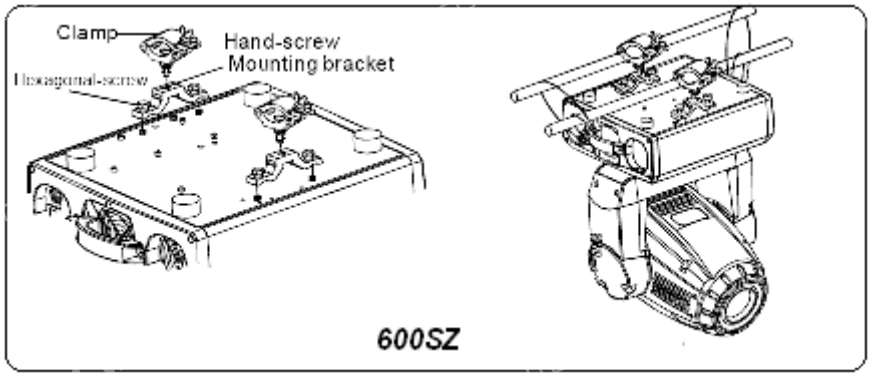
DMX cable	User manaul	Mouting Bracket	Safety cord	Hexagonal-screw

2. Installation and safety operation

- Installation Requirements
  Please make sure to fasten the mounting bracket firmly before installing. The mounting bracket must share the weight 10 multiple weight of the moving heads.

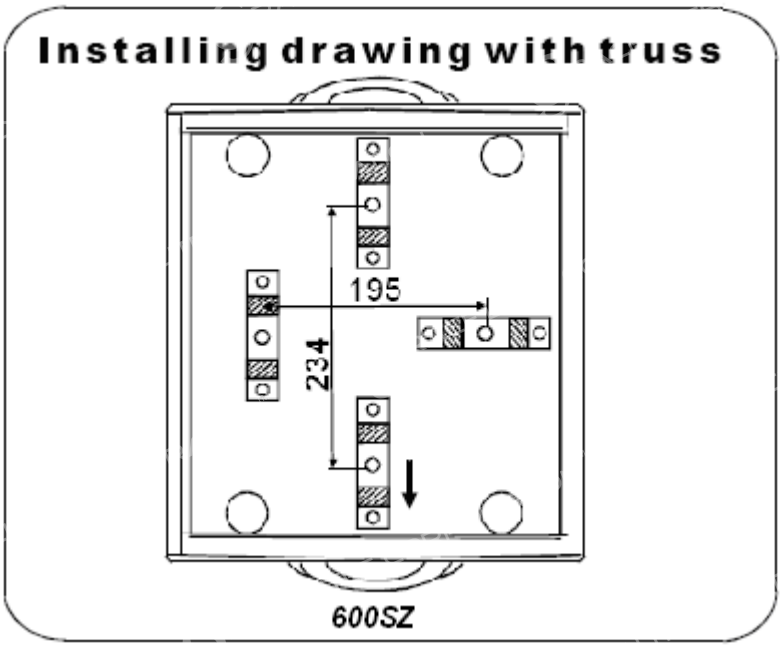
- Connect the mounting bracket and fix the clamp firmly to the truss in order to avoid the moving head from getting loose or falling down.

- The moving head should be mounted with appropriate clamp by using 2 bolts. The mounting bracket itself is attached to the bottom of the moving head with 4 bolts provided in the package. Always make sure that the moving head is anchored firmly to avoid any vibration or fall.

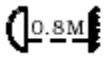


- For safety purposes the moving head should be connected with the safety cable ends by looping the cable over the truss, running it through the truss and the handle of the moving head .The safety cable will fasten the moving head on the truss tightly to avoid any vibration or falling.

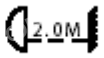
  - When installing the moving head, do not allow anyone nearby.
  - After installing the fixture, weekly inspection of the safety cable, clamp or truss are necessary to moving head from slipping. If any accidents occur, the manufacturer is not at fault.



- **Other safety terms**
  Maintain minimum distance of 0.80 cm (3.28 Feet) from combustible materials.



Picture 16



Picture 17

- Observe minimum distance to lighted objects of 2.0 meters (6.6 feet)
- Do not mount on a flammable surface. Keep flammable objects at least 1 meter away from fixture. Do not light objects closer than 1 meter.
- Replace fuses only with the specified type and rating.
- **Ambient temperature:**
  In order to ensure proper fixture operation, the room temperature must be higher than 33° and no lower than 2°
- **Surface temperature**:
  Equipment surfaces may reach temperatures up to 100° C (212° F). Allow 5 minutes for cooling before handling.

- **Electric shock & static protection:**
  These moving heads are designed to work and depend on the electric shock protection. The moving head should be connected with the power supply system. The moving head's ground cable should be connected with the ground cable of the power supply system. The ground mark of the fixture metal cover should be securely connected with the installation bracket.

- **Connect the main power supply:**
  Connecting of the main power supply should be done by a professional.

- Please check the voltage, frequency data of power supply system of the moving head to avoid different voltage or melting.

- Please refer to the actual wattage allowed of the moving head's lamp. Multiply 1.5 total quantity of the moving head then you could get the minimum power loading. If your power cable can't share the minimum power supply loading. Do not connect all the moving heads

3. Lamp replacement

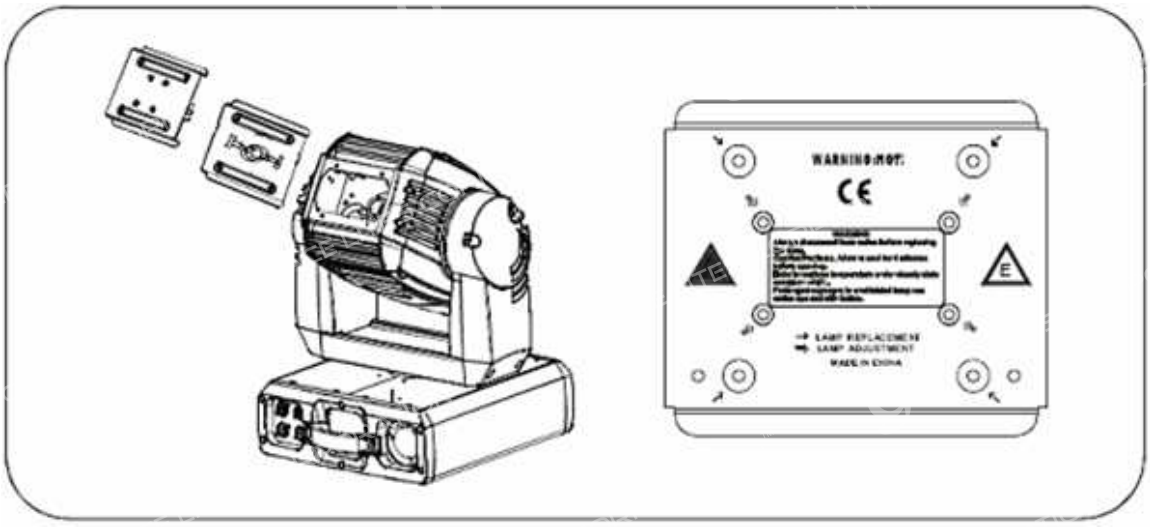
Lamp Description

Model	Lamp Description		
600SZ	Philips MSI 575W HR 6000 K 1000 Hr	Osram HMI 575W /GS 5600K 1000 Hr	

Lamp Replacement

Warning:
Disconnect the power supply before replacing the lights.

Open the lamp access panel at the rear of the moving head by undoing the 4 hand-operated screw .Then you can begin to replace the lamp. Pull out the old lamp from the lamp bracket and then plug in the new lamp. Remount the lamp bracket and fasten the screw at both sides tightly or the lamp's loose connection will result in high tension short circuit or electric discharge which will effect the lamp life or damage the PCB board. When replacement is complete, close the cover and fasten the screw at both sides tightly.



Lamp features

HMI series lamp is a high-voltage recharge lamp. Always be careful when handling the lamp before operating. Please read the following information carefully. Manufacture will not be responsible for misuse or incorrect operation.

Warnings:

Warning 1:

Disconnect the power supply if there are no lamps fixed inside the fixture. Or it will melt down the fixture.

Warning 2:

Disconnect the power supply before replacing the fixtures.

Warning 3:

When the lamp is operating, its temperature will be extremely high. The feature of the recharge lamp can not work under the interruption power supply. Therefore, please let the lamp cool down completely (Approx 15 minutes at least).Then it's ready to operate again. Other wise, it will lead to high tension, short circuit or electric discharge. It may cause the part of the control board to burn down.

Warning 4:

All the lamps have its usage life, please inspect the lamp timing and ensure the lamp's usage life not to exceed the rated life span; otherwise, it may result in damaged, broken, deformation or blacken. If the lamp is broken, the impact will damage the moving head's spot system. The electric parts on the circuit board may cause cracks by the high voltage. The hot lamp fragments may injure people, explode, or set on fire.

Warning 5:
When the lamp is blackening, cracking, deformed or damaged, let the lamp cool down 15 minutes. If replacement of lamp is needed, read the user manual forwarded by the manufacturer.

Warning 6:
The inside temperature is much higher under normal working conditions. Do not touch the moving head with bare fingers. Negligence or misuse of directions in manual may lead to damage.

Advertisement:
Use the OSRAM or PHILIPS lamp is the first choice. (The average lift time of the OSRAM and PHILLIPS is 700 hours; the average lift time of other brand is 70-100 hours).

4. Power Supply & Control

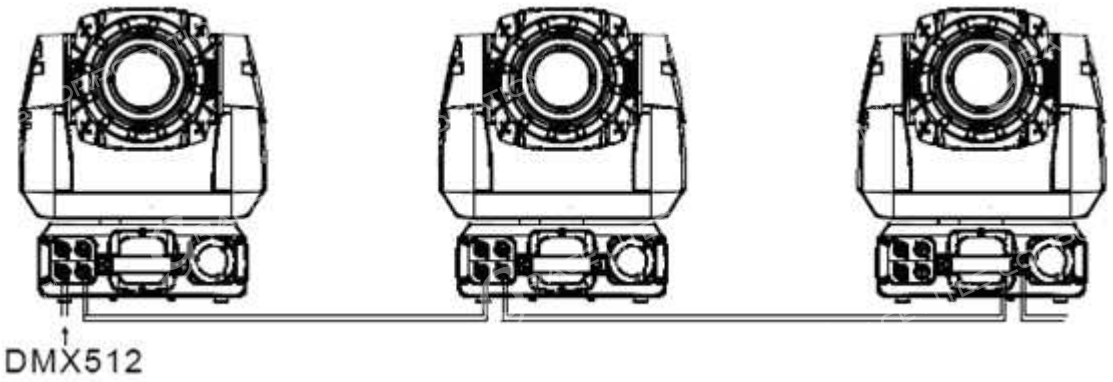
4.1 Power Supply Connection and Control

Use a professional plug to connect the moving head and main power supply. Pay attention to the voltage, frequency the same as mentioned on the moving head; suggest each fixture has an independent switch of the power supply so that it can be turned on or off.

Voltage	240V	230V	220V	208V	120V	110V	Frequency	50Hz	60Hz
Matched							Matched		
Model									

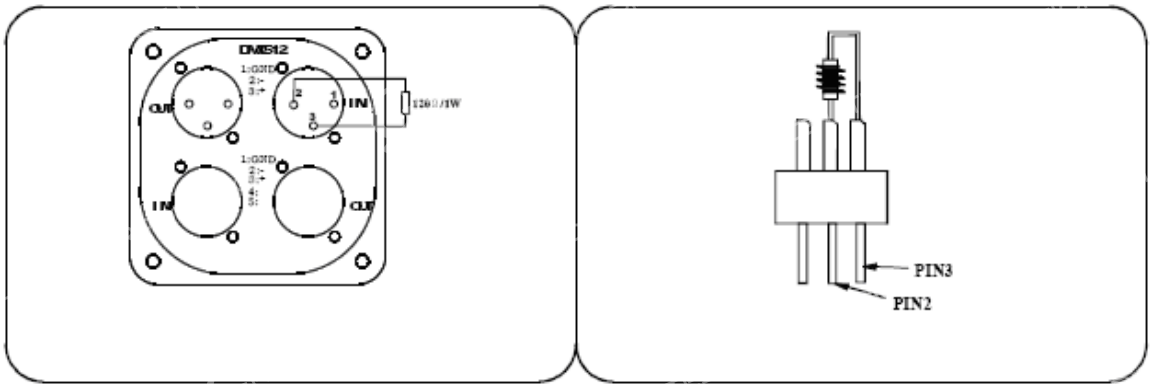
4.2 Signal connection

Please use the round 3-pin XLR plugs & sockets offered by manufacture to connect the first moving head's output to the second moving head's input and connect the second moving head's output to the third moving head's input and in the same way for the rest as shown below.



The moving head's control signal output or input by using the 3 pin or 5 pin XLR pug and socket. If need to lengthen the communication cable. Make sure that both sides of 3-pin plug are one to one (one to one, two to two, three to three). Otherwise, the communication cable will be interrupted. The communicate cable is 2-pin shielded cable 75 Ω RESISTANCE with each core is at least a 0.5mm diameter. (Caution: All the inside leading wire of 3-pin XLR plug can not touch each other or plinth).

We recommend using the DMX signal terminator for the installation to avoid electronic noise damage to the digital control signal. Simply speaking, DMX terminator is an XLR connector with a 120 /1w resistor connected across pin 2 and 3, which is then plugged into the output socket on the last moving head in the chain. Refer to the connection as below. We suggest using the DMX signal distributor when the distance of the fixtures is over 15meter.



4.3 Fixture Connection

After performing the above instructions and after making sure the moving heads have the appropriate lamps, press the power switch to check whether everything is working normally. The LED display will show the original DMX signal address. The moving head has a reset function. It means that if draw out the communicate cable or turn off the control 30 seconds later, re-draw in the communicate cable or turn on the controller. The moving head will be mechanically set (reset). The lamp will be fixture after connecting the power. Several minutes later the moving head will begin the mechanical positioning.

5. MOVING HEAD IP CODE PROGRAMMING

To make sure every moving head reacts to the control signal correctly, a digital starting IP code should be given to every G-Lites moving head. Digital starting IP code should be given to every G-Lites moving head. Digital Starting code is a channel number. By this number, the moving head should obey the command from the controller. Digital starting IP code is set by the operation panel, progressing to the starting IP value.

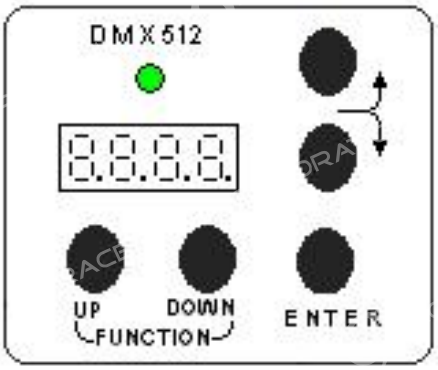
FIRST FIXTURE'S IP CODE VALUE = (VALUE OF THE FORMER IP CODE) + (CHANNEL ON THE CONTROLLER)

Note: The first moving head's starting IP code is 001.

Channel number on the controller should not be less than the channel number on the moving head.

6. MOVING HEAD IP FUNCTION SELECTION

There are 16 IP function selections on the G-Lites Moving heads. These functions could be selected by the operation panel.



7. DISPLAY MENU MAP:

N	Description	Default	Up/Down key letter
1	DMX setting address setting	d.001	d.512
2	PAN normal/anticlockwise 180 degree setting	Pa.rl	PA.LE
3	TILT normal/anticlockwise setting	TI.Dn	TI.Up
4	Extend/compress channel setting	16 bit	8 bit
5	PAN/TILT run speed setting total 1-10 level	SPd 6	SPd 1/10
6	Lamp on/controller turn on setting	LAP y	LAP n
7	Display normal/inversion mode	dIP.P	dIP.A
8	Fixture working hours	H000	
9	Key-press restoration enactment	rESt	
10	Interior electronic restoration enactment	rST.I	rST.I
11	Spare	F1-N	F1-Y
12	Self-test	F2-N	F2-Y
13	Master/slave mode	F3-N	F3-Y
14	Restore default setting of leave the factory	-------	-------
15	Dimmer function	dn-r	dn-n
16	Temperature contrast	T.Nar	T Hot / T.Col

Setting the starting DMX code

1. PA.LE is left movement reverse
2. PA.RI is right movement reverse

1. TI.UP is up movement reverse
2. TI.do is down movement reverse

1. 16.bT is extended channel number
2. 8.bT is compressed channel number

Setting the maximum limit for XY speed movement
01 – 09

1: The Controller controls the lamp turn on/off (If you want the lamp to go off when pressing the key, you have to select this function)
2: Lamp turns on automatically when there's a power supply and turns off when there's no power. This is not controlled by the contr ler (If you want the lamp to switch on when pressing the key, you have to select this function)

1. dIP.P is the numerical code transfer on the normal direction display
2. dIP.A is numerical code transfer on the reverse direction display

Lamp hour

Reset units by clicking ENTER

1. Panel key controls the inner motor reset. The XY motor doesn't reset
2. Controller controls the inner motor reset. The XY motor doesn't reset

Spare

y = Self-test Autorun Mode

Spare

Factory default

Dimmer function r = Reverse
N= Normal

Working Temperature Environment
(tnor=normal, tHot=Hot and tCol=Cold)

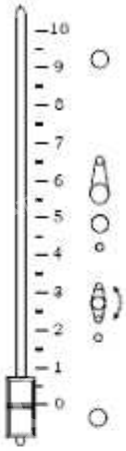
8. DMX CHANNELS & PHOTOMETRICS

8.1 CHANNEL TABLE

8 Bit MODE		16 Bit MODE	
Channel #	**Description**	**Channel #**	**Description**
1	Lamp On / Reset	1	Lamp On / Reset
2	Dimmer	2	Dimmer
3	Shutter / Strobe	3	Shutter / Strobe
4	Pan Coarse	4	Pan Coarse
5	Tilt Coarse	5	Tilt Coarse
6	Color Wheel A	6	Color Wheel A
7	Gobo Wheel B	7	Gobo Wheel B
8	Gobo Wheel A	8	Gobo Wheel A
9	Gobo Wheel A Rotation	9	Gobo Wheel A Rotation
10	Iris	10	Iris
11	Focus	11	Focus
12	Zoom	12	Zoom
13	Prism & Rotation	13	Prism & Rotation
14	Color Wheel B	14	Color Wheel B
15	Blackout movement / functions	15	Blackout movement / functions
16	Pan / Tilt Speed	16	Pan / Tilt Speed
~	~	17	Pan Fine
~	~	18	Tilt Fine

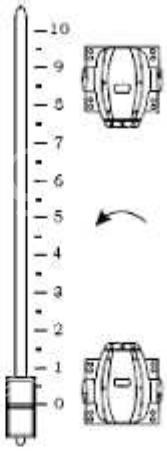
8.2 DMX PROTOCOL CHART

Channel 1 Lamp on/off+reset: (8/16 Bit)



DMX Value	Effect
240-255	Lamp on
227-239	Idle
220-226	Lamp off(hold for>10s)
127-219	Idle
120-126	Reset gobo B, ZOOM (hold for 3s)
097-119	Idle
090-096	Reset color A, strobe, gobo A (hold for 3s)
077-089	Idle
070-076	Reset all motors except X, Y motor (hold for 3s)
067-069	Idle
060-066	Reset all motors (hold for 3s)
037-049	Idle
030-036	Menu display off/on (hold for 3s)
027-029	Idle
020-026	DMX signal display off/on (hold for 3s)
017-019	Idle
010-016	Upset/right display (hold for 3s)
000-009	Idle

Channel 4: Pan Coarse (8/16 Bit)

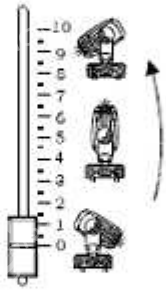


DMX Value	Effect
255	540°
0	0°

Channel 2: Dimmer (8/16 Bit)

DMX Value	Effect
255	Open
249	100%
005	0%
000-005	Closed

Channel 5: Tilt Coarse (8/16 Bit)



DMX Value	Effect
255	250°
0	0°

Channel 3: Shutter / Strobe (8/16 Bit)

DMX Value	Effect
250-255	Open
240-249	Random closing pulse,slow
230-239	Random closing pulse,medium
220-229	Random closing pulse,fast
210-219	Random opening pulse,slow
200-209	Random opening pulse,medium
150-159	Random opening pulse,fast
160-169	Open
170-179	Random strobe,slow
160-169	Random strobe,medium
160-159	Random strobe,fast
140-149	Open
108-139	Closing pulse, slow->fast
076-107	Opening pulse,slow->fast
066-075	Open
020-065	Strobe,slow->fast
010-019	Open
000-009	Closed

Channel 6: Color Wheel A (8/16 Bit)

DMX Value	Effect
226-255	clockwise rotating slow->fast
224-226	Stop
194-223	counterclockwise rotating fast to slow
020-193	Color change by adjusting degree
080-069	White
070-079	Red
060-069	Light Blue
050-059	Orange
040-049	Green
030-036	Purple
020-029	Yellow
010-019	Dark blue
000-009	White

Channel 7: Gobo Wheel B (8/16 Bit)

DMX Vaule	Effect
225-255	Counterclockwise rotating scroll slow->fast
215-224	Open(Gobo 1)
200-214	Gobo 2,shake slow->fast
185-199	Gobo 3,shake slow->fast
170-184	Gobo 4,shake slow->fast
155-169	Gobo 5,shake slow->fast
140-154	Gobo 6,shake slow->fast
125-139	Gobo 7,shake slow->fast
110-124	Gobo 8,shake slow->fast
095-109	Gobo 9,shake slow->fast
080-094	Gobo 9
070-079	Gobo 8
060-069	Gobo 7
050-059	Gobo 6
040-049	Gobo 5
030-039	Gobo 4
020-029	Gobo 3
010-019	Gobo 2
000-009	Open(Gobo 1)

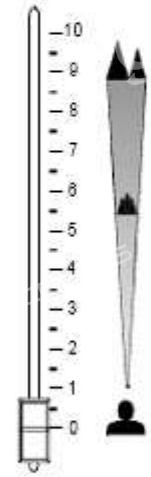
Channel 10: Iris (8/16 Bit)

数值	效果
250-255	Closed
218-249	Open iris pulse slow to fast
186-217	Close iris pulse slow to fast
154-185	Slow to fast zoom iris
150-153	Iris min.
010-149	Iris max.->min.
000-009	Open

Channel 8: Gobo Wheel A (8/16 Bit)

DMX Value	Effect
235-255	Open(Gobo 1)
220-234	Gobo 2,shake slow->fast
205-219	Gobo 3,shake slow->fast
190-204	Gobo 4,shake slow->fast
175-189	Gobo 5,shake slow->fast
160-174	Gobo 6,shake slow->fast
145-159	Gobo 7,shake slow->fast
120-144	Gobo 7
100-119	Gobo 6
080-099	Gobo 5
060-079	Gobo 4
040-059	Gobo 3
020-039	Gobo 2
000-019	Open(Gobo 1)

Channel 11: Focus (8/16 Bit)

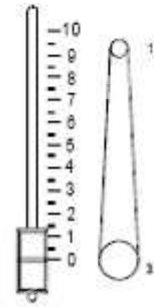


DMX Value	Effect
255	Farclear
000	Nearclear

Channel 9: Gobo Wheel A rotation (8/16 Bit)

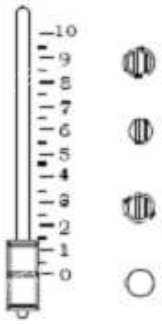
DMX Value	Effect
194-255	counterclockwise rotating slow->fast
191-193	Stop
129-190	clockwise rotating fast->slow
126-128	Stop
000-125	Gobo indexing clockwise 0°-360°

Channel 12: Zoom (8/16 Bit)



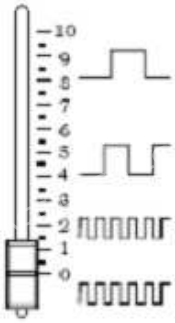
DMX Value	Effect
255	Zoom 0%
000	Zoom 100%

Channel 13 : Prism rotation (8/16Bit)



DMX Value	Effect
135-255	clockwise rotating slow→fast
131-134	Stop
010-130	counterclockwise rotating fast→slow
000-009	White

Channel 16: Pan/Tilt speed (8/16Bit)

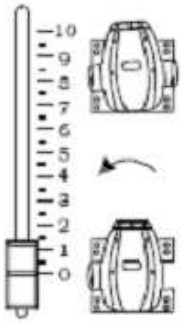


DMX Value	Effect
255	Slow
010	Fast
000-009	Fast

Channel 14: Color Wheel B (8/16 Bit)

DMX Value	Effect
226-255	clockwise rotating,slow→fast
224-225	Stop
194-223	counterclockwise rotating fast-slow
190-193	Color change by adjusting degree
080-089	White
070-079	Frost
060-069	fluorescence
050-059	Light yellow
040-049	Blue
030-039	Pink
020-029	Cold colr
010-019	Warm color
000-009	White

Channel 17: Pan fine (16Bit)

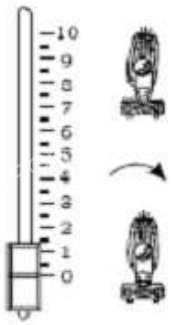


DMX Value	Effect
255	3.6°
000	0°

Channel 15: Blackout movement/funct.(8/16 Bit)

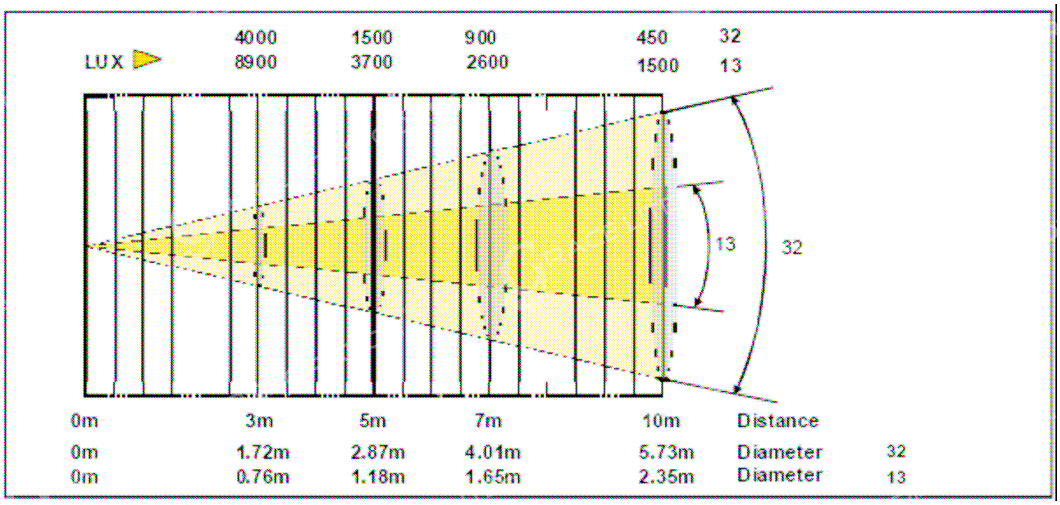
DMX Value	Effect
240-255	No blackout
210-239	All function change,blackout
180-209	Pan/tilt movement,blackout
150-179	Color change,blackout
120-149	Idle
090-119	Globe change,blackout
030-089	Prism change,blackout
000-029	No blackout

Channel 18: Tilt fine (16Bit)



DMX Value	Effect
255	3°
000	0°

9. LUMINOUS INTENSITY



10. GOBO AND GOBO SIZE

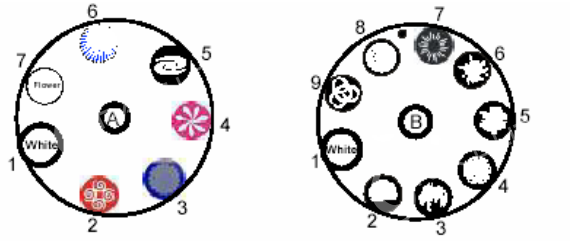
Thickness stainless (0.2mm) / glass GOBO (1.1mm)

Rotating metal GOBO Wheel A outside (28mm) /inside (22mm)

Rotating glass GOBO Wheel A outside (28mm)/inside (21.5mm)

Fixing GOBO Wheel B outside (28mm) / inside (20.5mm)

White: outside (28mm)/inside (23mm)



The GOBOS can be different than the picture that you see in this manual; the manufacturer has the right to make any adjustment without notice.

MAINTENANCE

This chapter includes information on replacing parts, and cleaning the fixture. This fixture must be serviced by qualified personnel. The information listed in this chapter is intended to assist qualified personnel *only*.

Important Information:

- Disconnect the fixture from power before servicing.
- Exterior surfaces can reach 200˚ C and interior surfaces can exceed 250˚ C. Allow the fixture to cool for five minutes before touching any surface.
- Always wear hand and eye protection when servicing the fixture.
- Do not touch the lamp with bare fingers. The oils from your skin can damage the lamp and cause it to explode. If the lamp is accidentally touched, clean it immediately with a soft cloth and isopropyl alcohol ($(CH^3)^2CH0H$).
- Clean the lens and dichroic filters on a regular basis. Do not use any type of solvent since it may damage the fixture, just use a clean cloth.
  It is not recommended to use the fixture for more than 4 hours.
  Continuous use will shorten the life of the lamp.
- Clean your fixture on a regular basis. Dust, fog and smoke particles can accumulate and cause malfunctions.
- To clean the exterior surfaces, wipe with a soft lent-free polyester cloth or use a small vacuum to remove any built-up dust and dirt. Do not use a blower because it will force foreign particles into the fixture.
- For optimal cleaning, use a mixture of 70% alcohol to 30% water for the initial cleaning. Then clean the same parts with 100% alcohol.

TECHNICAL DATA

LAMP

Osram (included):
HMI 575W/GS (6000 K).

Phillips:
MSI 575 (5600 K).

Average Lamp life - 750 + hours (Osram/Phillip lamp)

COLOUR

8 main interchangeable colors (7 + 1 white/ open) + 8 mixed colors. Can freely move clockwise or anticlockwise, fast or slowly.
Linear CMY/COLOR wheel.

GOBO

8 fixed interchangeable metal gobos + white light.
6 rotating glass gobos + white light (all can be custom made).
Rotating gobos can freely move clockwise or anticlockwise, fast or slowly.
Angles for rotating gobos can be separately adjusted (to ensure consistency of gobo orientation and angle).

EFFECTS

3 faces prism lens with free clockwise or counterclockwise rotation.
13° – 32° stepless zooming feature, freely tunable.

OPTICS

Motorized focus.
Motorized iris (Adjustable aperture size).

DIMMER-SHUTTER-STROBE

0 – 100% mechanical linear dimming (adjustable from full blanking to full opening effects).
1-7 flashes/second ultra high speed strobe effect.

PAN TILT

Horizontal direction 540° scanning, smooth scanning action and accurate orientation.
Vertical 250° scanning, smooth scanning action and accurate orientation.
Pan/Tilt lock.
Pan/Tilt w 8/16 bit resolution.
Automatic Pan/Tilt repositioning.
Precise adjustment on horizontal and vertical position.
Precise speed adjustment on horizontal and vertical position.

INPUT

3 pin or 5 pin in and out DMX 512 signal.
18 Channel (16 Bit) or 12 Channel (8 Bit).

SET UP

Separate motor debug remote control.
Separate DMX address functions remote control: stand, inverted, light on, light off.
Auto test all functions.
Display “flip” function 180° rotation.
Working temperature adjustment.

POWER

Magnetic Ballast Version.
200V -220 V – 60 Hz.
100V -120 V – 60 Hz (optional).
220V -240 V – 50 Hz (optional).

Built-in over heat protection and high voltage protection.
PFC power factor compensation.
According to various kinds of safety standards, IP20 protect grades, the cable accords to CE20/22 standard.

CONSUMPTION

Power Consumption: 680 W.

DIMENSION

L470mm W365mm H697mm.

WEIGHT

43.5 Kg.

General Troubleshooting

This Chapter provides information on diagnosing and solving operational problems. If a solution to your problem cannot be found in the following subsections, contact your authorized dealer or **LED-G** technical Support.

Unit functions but lamp does not strike:

- Make sure the correct lamp has been installed in the fixture.
- Check for loose igniter or power supply connection.
- Replace lamp.
- If lamp is still hot from recent operation, leave the unit turned on and when the lamp's temperature drops, it will restrike.

Color system is not producing the correct color

- Replace the lamp.
- Clean optics.
- Re-home the fixture

Unit is producing unexpected results

- Check DMX starting address on the fixture and console match.
- Verify that the last fixture on the link is terminated.

Unit is not responding to console:

- Verify that the fixture has the correct DMX address
- Check and replace data cables
- Verify that the last fixture on the link is terminated.

Unit is not moving

- Check if the power supply is suitable for the voltage of the fixture.
- Replace sensors.
- Please checks if the inside lead wire and the connector are loose.
- Please check the electric part (such as the switch, transformer, ballast, electric capacity, piezo resistor, filter, PCB board, controller to motor).

Pan or Tilt position is off:

- Verify that all belts are tight.
- Home the fixture.